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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,143	04/03/2001	Yoshiyuki Yasui	003510-089	8922

7590 12/09/2003

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EXAMINER

KING, BRADLEY T

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/824,143

Applicant(s)

YASUI ET AL.

Examiner

Bradley T King

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003 and 10 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-76 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6, 14, 16
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakata et al (US#4836618) in view of Yamaguchi et al (EP 0 887 241).

Wakata et al discloses a brake force distribution control device having wheel speed means for detecting wheel speeds of respective wheels of a vehicle, control means for distributing braking forces to the respective wheels by controlling the brake force of each wheel, and the control means controls a braking torque of a wheel which is an object of control on the basis of a reference wheel (see column 10, lines 60 through column 11, line 5). Wakata et al lack the use of road surface mu slopes, instead using slip ratios. Yamaguchi et al teach the use of road surface mu slopes instead of slip ratios to compensate for different road surface conditions. Yamaguchi et al further teach the suitability of road surface mu slopes for set points in vehicle dynamic control systems (page 27, lines 40-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the road mu slopes taught by Yamaguchi et al in the system of Wakata et al to allow more accurate and appropriate control of the system, thereby increasing the safety, and stability of the vehicle.

Regarding claims 4 and 6-8, Wakata et al teach the change of apportioning in turns (figures 8a-8b). Wakata et al also discloses the maintaining, reducing or increasing of a wheel brake force to achieve the desired target.

Regarding claim 9, Wakata et al teach a brake operation detecting sensor P_m and computes a target brake force on the basis of P_m .

Regarding claims 11-14, see column 10, lines 60 through column 11, line 5. Also note figure 2a of Yamaguchi et al. Smaller slip ratios are indicative of higher road surface μ slopes.

Regarding claims 15-16, see figure 2a of Yamaguchi et al. Higher road surface μ slopes indicate a higher braking ability.

Response to Arguments

Applicant's arguments filed 09/10/03 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). While the applicant contends that neither reference teaches a road surface μ slope estimating means which estimates the slopes of braking forces with respect to detected wheel speeds and distributes braking forces based on the μ slopes, it is

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maintained that the references, as combined above, disclose this feature. Wakata et al discloses all the limitations of the independent claims with exception to the use of road surface mu slopes, instead Wakata et al uses slip ratios. Yamaguchi et al provide the teaching and motivation for utilizing road surface mu slopes instead of slip ratios. It is maintained the rejections are proper.

Conclusion


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley T King whose telephone number is (703) 308-8346. The examiner can normally be reached on 11:00-7:30 M-F.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

BTK
November 30, 2003


JACK L. VINDER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600